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8.1 GOVERNMENT AGENCY INVOLVEMENT

Among the first actions required when responding to an emergency is to contact the appropriate government authorities and agencies mandated by law to respond to the situation. The contacted agencies will assume responsibility for their actions, will take measures to ensure public safety, and take action to minimize damage to public property.

Depending on the emergency, the following agencies will respond:

8.1.1 WSDOT Northwest Region Bridge Branch, Bellevue

Maintenance crews from the Northwest Region Bridge Branch are required to be present during an emergency event to perform emergency response functions or to assist the appropriate emergency team.

8.1.2 WSDOT Bridge and Structures Office, Olympia

The Bridge and Structures Office is responsible for providing technical support to the Region on an as-requested basis after an emergency event.

8.1.3 Traffic Systems Management Center, Seattle

If a sensor indicator on the bridge is activated, Traffic Systems Management Center (TSMC) will automatically be alerted, and will contact Region Bridge personnel. Additionally, TSMC is connected to the internal communication system located in each pontoon, making it possible to speak by intercom from a pontoon directly to the TSMC office.

8.1.4 Washington State Patrol

The Washington States Patrol will respond to all emergency situations on the Homer Hadley and Lacey V. Murrow bridges. They are directly responsible for traffic control and mobilization of emergency response agencies as deemed necessary by themselves or the Region Bridge Maintenance Superintendent.

8.1.5 WSDOT Region Incident Response Team

The WSDOT Incident Response Team (IRT) is available for responding to most emergency events, including a small hazardous/flammable material spill. For large spills, the Department of Ecology will normally respond. The Washington State Patrol will normally contact the IRT.

8.1.6 Department of Ecology

The Department of Ecology (DOE) will be actively involved in all emergencies that relate to environmental threats such as hazardous waste spills, gasoline or flammable liquid spills on the Homer Hadley and Lacey V. Murrow bridges. In the event of a spill on the bridge, the State Patrol will normally contact the DOE Spill Team.

8.1.7 Seattle and Mercer Island Police Departments

The Seattle Police Department typically responds to incidents occurring in the eastbound direction (Lacey V. Murrow Bridge). The Mercer Island Police Department typically responds to incidents occurring on the westbound bridge (Homer Hadley Bridge).

8.1.8 Seattle and Mercer Island Fire Departments

The Seattle and Mercer Island Fire Departments respond to a fire, flammable liquid spill, serious vehicle accident, and possibly hazardous waste spills. Typically, the Seattle Fire Department is the first to respond to incidents on the eastbound bridge, while the Mercer Island Fire Department is the first to respond to incidents on the westbound bridge.

8.2 STORMS

A weather station on the Homer Hadley Bridge monitors temperature, wind speed, direction, and duration. WSDOT uses the information as an indication of storms which might threaten the bridge. The data collected by the weather station, together with information from the U.S. Weather Service, assists WSDOT in evaluating the need to temporarily close the bridge to traffic.

8.2.1 Pre-Storm and During Storm Inspections

Pre-Storm Inspection

The following should be checked prior to the arrival of the storm:

- ☐ Confirm that the water sensor alarm circuits are operational between panel, Northwest Region Radio, and control cabinets.
- ☐ Confirm that all pontoon access hatches are secured.
- ☐ Visually confirm initial vertical and horizontal alignments.
- ☐ Visually confirm the initial alignment of the expansion joints between the floating structures and transition spans.
- ☐ Confirm that all drains along the roadway are clear.
- ☐ Verify the general working condition of the weather station on Homer Hadley Bridge.

As Storm Arrives

Notification of high winds can come from one of three sources:

- ☐ Northwest Region Radio
- ☐ The Weather Service
- ☐ Personal observation

An alarm at Northwest Region Radio will sound when wind monitoring equipment at Evergreen Point Bridge

registers wind speeds over 45 mph in any direction for 1 minute. Northwest Region Radio will contact Bridge Maintenance personnel.

As the storm arrives, conduct on-site inspection of the following:

- ☐ Wind velocity
- ☐ Wind direction
- ☐ Reaction and movement on the bridge

Based on this inspection result or Northwest Region Radio alert, call out the storm watch crew if necessary. The storm watch crew consists of two people minimum.

Inspections During Storms

During a storm, monitor the following items, if possible:

- ☐ Pontoon water sensor indicators at the Mercer Island Shop
- ☐ Horizontal and vertical alignment of the bridge
- ☐ Alignment of expansion joints at transition spans
- ☐ Listing or slumping of pontoons
- ☐ Wave height
- ☐ Wind speed and duration
- ☐ Traffic
- ☐ Visibility
- ☐ Water accumulation on the deck
- ☐ Motion of the bridge
- ☐ Icing on the bridge

The preceding items should be continually checked or inspected during a windstorm. This is normally done by a two-person team. The team should carry a portable radio and should maintain contact between itself and Seattle Radio or some other unit.

Emergency Bridge Closure During Storms

The criteria for potential closure of the bridge to traffic during a storm include:

- ☐ Winds of 55 miles per hour and above
- ☐ Movement and conditions on the bridge
- ☐ The safety of the traveling public

- ☐ The structural integrity of the bridge
- ☐ Weather prediction

When the one-minute average wind speed at the I-90 bridges reaches 65 MPH for 15 minutes both bridges are to be closed to traffic.

When the one-minute average wind speed at the I-90 bridges reaches 75 MPH for 15 minutes all WSDOT personnel should immediately vacate the bridge premises.

Regardless of wind speed or direction, when the senior Bridge Maintenance person on the bridge determines that there is an unsafe situation for the traveling public or the crew, or a high risk of structural damage to the bridge, the bridge will be closed to traffic.

Procedure for Closing the Bridge to Traffic:

1. Depending on the severity of the storm, (time permitting) contact the IRT and Area 5 Maintenance, Washington State Patrol, Seattle Police Department, and Mercer Island Police Department to assist with closing and detouring traffic.
2. Time not permitting, block the mainline traffic and clear the bridge of all vehicles.
3. The senior Bridge Maintenance person will then have Northwest Region Radio notify the Washington State Patrol, local police, and the IRT to set up temporary traffic control. Northwest Region Radio will also notify Area 5 Maintenance to mobilize the maintenance crews to establish complete control.

8.2.2 Post Storm/Earthquake Inspection

Prior to Re-Opening the Bridge

Following a storm in which the bridge was closed to traffic, an initial inspection must be performed. Visually check:

- ☐ Horizontal alignment of the pontoons
- ☐ Horizontal alignment of the expansion joints at the transition spans
- ☐ Vertical alignment of the pontoons
- ☐ Draft marks on the pontoons exteriors
- ☐ Water sensor indicator alarms

Most of the above items should have been monitored during the storm. Therefore, the time required for these inspections prior to opening the bridge to traffic should be minimal. If the above checks do not reveal evidence of damage which requires further immediate action, the bridge should be opened to traffic.

Immediately After Re-Opening the Bridge to Traffic

If the wind speed during the storm reached 65 miles per hour, then an inspection of the entire bridge must be performed. Check:

- ☐ Every cell for cracks in the concrete
- ☐ Every cell for water accumulation
- ☐ All anchor cable tensions

As Soon as Possible Following Any Severe Wind Storm

A thorough inspection of the entire bridge should be accomplished. It should include the following items:

- ☐ Pontoons
 - Boater protection
 - Anchor cables, both inside and outside pontoons
 - Anchor cable shims
 - Cells at bolted joints
 - Navigational lights
- ☐ Lower Decks
 - Bearings and expansion joints
 - Condition of safety cables
 - Parapet walls for damage
 - Check for debris and concrete damage

If this inspection reveals items of concern, request assistance from a representative of the Bridge Preservation Section. The representative should be a licensed Professional Civil Engineer.

8.3 SEVERE WATER LEAK

Any severe water leak will be detected by the water sensor system. An alarm will be displayed at the P5 panel in the pontoon and on the main control panel in the Mercer Island Shop.

The main panel in the Mercer Island Shop will indicate which pontoon is flooding, but not which individual cells within that pontoon. The pontoon P5 panel will indicate which cell is flooding. An automatic dialer in the main panel will send a message to Northwest Region Radio in the Dayton Avenue building indicating that a leak has been detected. Northwest Region Radio will notify Bridge Maintenance personnel of the alarm.

8.3.1 Severe Water Leak Procedure

Upon notice of an alarm, Bridge Maintenance personnel should follow these procedures:

1. After receiving an off-hour notification of an alarm condition on the I-90 Floating Bridges, report to the Mercer Island Shop. While waiting for the second technician to arrive, check main control panel to see

which pontoon is in alarm, warm up a truck and call in service with Seattle Radio.

2. When both technicians are present, proceed to the appropriate pontoon. Check the P5 panel inside the pontoon for the cell in alarm condition.
3. Check the cell that is indicated by the light.

If water is present, see options below, based on the conditions:

1. If there is over 12" of water in one cell or if you can see an active leak or breach, notify Seattle Radio by radio to alert the Bridge Supervisor immediately. Proceed with damage control, including use of the pumps and bilge piping system, until help arrives. (Locations of pumping equipment and damage control tools and materials are listed below.) If at any time you have a situation where more than four cells are filled to lake level, notify Seattle Radio by radio to alert the State Patrol of the immediate need to close the bridge to highway traffic.
2. If there is 5" to 11" of water, begin pumping activities immediately. (Locations of pumping equipment and damage control tools and materials are listed below.) After pumping to a level of less than 1", inspect the area for a possible source of the water. Once the water has been removed, clean the sensor and verify that the alarm has cleared at the P5 and Mercer Island panels.
3. If there is 1" to 4" of water and a normally scheduled crew will be reporting within eight hours, inspect the area for a possible source of the water. If you find nothing significant, continue to step 4.
4. If condition 3 applies, or you cannot find any physical reason for the alarm and are unable to clear it, proceed to the Mercer Island Shop. The control cabinet for the pontoon monitoring system is located down stairs. Flip the by-pass switch for the appropriate pontoon. Tag with the date, time and your name. Notify the Bridge Supervisor of the situation.
5. Before leaving, check to see that the following conditions exist:
 - The by-passed pontoon alarm light remains lit
 - The auto dialer remains operational

8.3.2 Location of Emergency Equipment

Location	Pump Type
H.H. West Lower Deck	One Godwin Pump Damage Control Equipment
H.H. East Lower Deck	Four Grindex Pumps One Generator Damage Control Equipment
L.V.M. West Lower Deck	One Godwin Pump Damage Control Equipment
L.V.M. East Lower Deck	One Godwin Pump Damage Control Equipment
Mercer Island Bridge Shop	One Godwin Pump Damage Control Equipment

The pumps identified as Godwin Pumps may actually be Power Prime Pumps. Since the pumps are very similar and operated in the same manner, they are all referred to as Godwin Pumps.

8.4 COLLISIONS BY VESSELS AND OTHER FLOATING OBJECTS

A commercial or recreational boat or floating object may some day collide with the bridge. Likely causes are human negligence or mechanical failure on a boat, and/or uncontrolled drifting of a log boom, barge, or other large floating object. The likelihood and potential severity of a collision increases with the size of the object and the severity of the wind and waves.

The primary threat to the public and to the bridge from a collision is the risk of one or more holes being punched in the side of the bridge pontoon(s), resulting in progressive flooding and ultimate failure of the structure.

In the event that personnel determine that a large object is bearing down on the bridge and that it is uncontrolled and/or unable to maneuver, immediately relay a request for tug assistance via telephone or radio. Evacuate the bridge of all public traffic if a pending collision could threaten bridge integrity or public safety. If there is no threat to the bridge or its users, it may be necessary only to clear a lane or two of traffic to facilitate response activities.

If a boat or other large object reaches the sidewall of the bridge, make every attempt to cushion the impact, prevent the object from sliding down the length of the bridge and, if necessary start rescue efforts.

8.5 FIRE

Three types of fire situations are envisioned on the bridge:

- ☐ An interior pontoon fire
- ☐ A roadway fire
- ☐ An exterior pontoon fire

Some fires will be indicated by an alarm. After receiving an off-hour notification of an alarm condition on the two I-90 Floating Bridges, report to the Mercer Island Shop. While waiting for the second technician to arrive, check to see which pontoon is in alarm, warm up a truck and call in service with Northwest Region Radio. Have an air monitor and portable radio on hand before going to the pontoon. When both technicians are present, proceed to the appropriate pontoon. If smoke is present when hatch is opened, call 911. Do not enter the pontoon. Call and inform the Bridge Supervisor of your findings.

The bridge must be inspected immediately following a fire.

8.6 HAZARDOUS/FLAMMABLE MATERIAL SPILL

A hazardous/flammable material spill can be caused by an overturned truck on the bridge or from a leak in a hazardous material container being transported over the bridge.

Do not approach any liquid spill of unknown substance. Contact Northwest Region Radio immediately. They will contact the appropriate authority as required. The bridge maintenance crew shall set up traffic control to keep traffic clear of the spill area.

8.7 EARTHQUAKE

After a major earthquake, check anchor cable tension of the transverse cables on pontoons A and R, and the longitudinal cables in pontoon J of Homer Hadley Bridge. On the Lacey V. Murrow Bridge check the transverse cables in pontoons A and T, and the longitudinal cables in pontoons F and G.

The forces of an earthquake will be applied to the bridge by wave action, tension or compression along the length of the bridge. The effect of an earthquake is likely to be similar to that of a storm, so the inspection and maintenance checklist for the post-earthquake case are the same as for the post-storm situation. Use the form under the post storm/earthquake.

8.8 PUBLIC AND MEDIA INFORMATION

WSDOT Public Affairs will handle all public and media information concerning an emergency event.